

## CLAIMS

What is claimed is:

1. A method of forming a foam product comprising the  
5 steps of:  
forming a layer of uncured thermosetting polyurethane foam;  
applying to said layer of uncured foam a layer of bubble pack  
made of thermoplastic polyurethane, such that the bubbles that extend  
outwardly from said bubble pack at least partially penetrate into said uncured  
10 foam; and  
curing said layer of uncured thermosetting polyurethane foam,  
whereby said thermosetting polyurethane foam chemically bonds to said  
thermoplastic polyurethane bubble pack.
- 15 2. The method of Claim 1, wherein said bubbles that  
extend outwardly from said bubble pack substantially completely penetrate  
into said uncured foam
3. The method of Claim 1, wherein said thermosetting  
20 polyurethane foam is about 1 to 10 mm in thickness.
4. The method of Claim 1, wherein said thermosetting  
polyurethane foam is about 2 to 5 mm in thickness.
- 25 5. The method of Claim 1, wherein said thermosetting  
polyurethane foam is cured by heating it to a temperature of about 110° to  
325°F.

6. A method of forming a foam product comprising the steps of:

applying to a layer of bubble pack made of thermoplastic polyurethane a layer of frothed, uncured thermosetting polyurethane foam, such that bubbles that extend outwardly from said bubble pack are at least partially surrounded by said uncured foam; and

curing said layer of uncured thermosetting polyurethane foam, whereby said thermosetting polyurethane foam chemically bonds to said thermoplastic polyurethane bubble pack.

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7. The method of Claim 6, wherein said bubbles that extend outwardly from said bubble pack substantially completely penetrate into said uncured foam

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8. The method of Claim 6, wherein said thermosetting polyurethane foam is about 1 to 10 mm in thickness.

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9. The method of Claim 6, wherein said thermosetting polyurethane foam is about 2 to 5 mm in thickness.

10. The method of Claim 6, wherein said thermosetting polyurethane foam is cured by heating it to a temperature of about 110° to 325°F.

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11. A method of forming a foam product comprising the steps of:

forming a layer of frothed, uncured thermosetting polyurethane foam, said layer of foam having a first surface and a second surface;

applying to said first surface of said layer of uncured foam a layer of bubble pack made of thermoplastic polyurethane, said bubble pack having a plurality of bubbles that project outwardly from said layer;

applying pressure to said layer of uncured polymeric foam and said layer of bubble pack so that said uncured polymeric foam at least partially surrounds each bubble of said plurality of outwardly projecting bubbles; and

applying to said second surface heat of a temperature and for a time sufficient to cure said layer of uncured polymeric foam, but not sufficient to adversely affect said layer of bubble pack.

12. The method of Claim 11, wherein said uncured polymeric foam substantially completely surrounds each bubble of said plurality of outwardly projecting bubbles.

13. The method of Claim 11, wherein said thermosetting polyurethane foam is about 1 to 10 mm in thickness.

14. The method of Claim 11, wherein said thermosetting polyurethane foam is about 2 to 5 mm in thickness.

15. The method of Claim 11, wherein said thermosetting polyurethane foam is cured by heating it to a temperature of about 110° to 325°F.

16. A method of forming a foam product comprising the steps of:

applying to a substrate a layer of frothed, uncured thermosetting polyurethane foam;

5 applying to said layer of uncured foam on said substrate a layer of bubble pack made of thermoplastic polyurethane, such that bubbles that extend outwardly from said bubble pack at least partially penetrate into said uncured foam; and

10 curing said layer of uncured foam to form a laminate comprising said substrate, said cured foam and said bubble pack.

17. The method of Claim 16, wherein said substrate is a fabric.

15 18. The method of Claim 16, wherein said substrate is a carpet.

19. The method of Claim 16, wherein said substrate is paper.

20 20. The method of Claim 16, wherein said substrate is a plastic film.

21. The method of Claim 20, wherein said plastic film is  
25 selected from polyurethane, polyethylene and polypropylene.

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25. The method of Claim 22, wherein said substrate is

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29. The product of Claim 6.

30. The product of Claim 11.

31. The product of Claim 16.

32. The product of Claim 22.

[illegible]

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a layer of thermosetting polyurethane foam attached to the layer; and

10 38. A method of making a shoe insole comprising the steps  
of:

applying to said layer of uncured foam on said fabric  
15 substrate a layer of bubble pack made of thermoplastic polyurethane, such that  
bubbles that extend outwardly from said bubble pack at least partially  
penetrate into said uncured foam;

20 cutting a plurality of shoe insoles out of said laminated structure.

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40. The process of Claim 38, wherein said process is carried out on a continuous basis.

41. A method of forming a product comprising the steps of:  
applying to a layer of bubble pack having a plurality of  
bubbles that extend outwardly from said bubble pack and also have interstices  
between adjacent bubbles a viscoelastic composition, such that the viscoelastic  
5 composition at least partially fills the interstices of said bubble pack; and  
curing said viscoelastic composition.

42. The method of Claim 1, wherein said bubble pack is  
made from a plastic material selected from polyurethane, polyethylene and  
10 polypropylene.

43. The method of Claim 1, wherein said bubble pack is  
made from thermoplastic polyurethane.

15 44. The method of Claim 1, wherein said viscoelastic  
composition substantially fills the interstices of said bubble pack

45. The method of Claim 1, wherein said viscoelastic  
composition is a viscoelastic polyurethane composition.

20 46. The method of Claim 1, wherein said bubble pack is  
about 3/32 to 1 inch in thickness.

47. The method of Claim 1, wherein said viscoelastic  
25 composition is cured by heating it to a temperature of about 110° to 325° F.

48. A method of forming a product comprising the steps of:  
applying to a layer of bubble pack having a plurality of  
bubbles that extend outwardly from said bubble pack and also have interstices  
30 between adjacent bubbles a viscoelastic composition, such that the viscoelastic  
composition at least partially fills the interstices of said bubble pack; and  
curing said viscoelastic composition.

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49. The method of Claim 24, wherein said substrate is a fabric.

50. The method of Claim 24, wherein said substrate is a  
5 carpet.

51. The method of Claim 24, wherein said substrate is paper.

52. The method of Claim 24, wherein said substrate is a  
10 plastic film.

53. The method of Claim 24, wherein said plastic film is  
selected from polyurethane, polyethylene and polypropylene.  
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54. A product comprising a layer of bubble pack having a  
plurality of bubbles that extend outwardly from said bubble pack and also  
have interstices between adjacent bubbles, said interstices being at least  
partially filled with a viscoelastic composition.  
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55. The product of Claim 30, wherein said viscoelastic  
composition is a viscoelastic polyurethane composition.

56. The product of Claim 30, wherein said viscoelastic  
25 polyurethane foam has a density of between approximately 40 and 80 pounds  
per cubic foot.

57. The product of Claim 30 further comprising a substrate  
attached to said viscoelastic composition.  
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58. A shoe insole comprising:

a layer of bubble pack having a plurality of bubbles that extend outwardly from said bubble pack and also have interstices between adjacent bubbles, said interstices being at least partially filled with a viscoelastic composition; and

a substrate attached to said viscoelastic composition.

59. A method of making a shoe insole comprising the steps of:

10 applying to a fabric substrate a layer of uncured viscoelastic polyurethane;

applying to said layer of uncured viscoelastic polyurethane on said fabric substrate a layer of bubble pack, said bubble pack having a plurality of bubbles that extend outwardly therefrom and interstices between adjacent bubbles, such that said viscoelastic polyurethane at least partially fills said interstices;

curing said viscoelastic polyurethane to form a laminated structure comprising said substrate, said cured viscoelastic polyurethane and said bubble pack; and

20 cutting a plurality of shoe insoles out of said laminated structure.

60. The process of Claim 35, wherein said process is carried out on a continuous basis.

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62. The process of Claim 37, wherein said process is carried out on a continuous basis.